

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: METALUX

Report Number: P294503

Luminaire Tested: **BMK-24-WCL-UNV-L835-CD-U**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P294503
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1903-198-5)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-24-WCL-UNV-L835-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH WIDE CLEAR LENS
Light Source: (528) 80 CRI 3500K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 24744.0 lumens
Efficiency: N/A
Efficacy: 159.1 lumens/watt
Spacing Criteria (0/90/45): 1.8 / 1.79 / 1.79
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

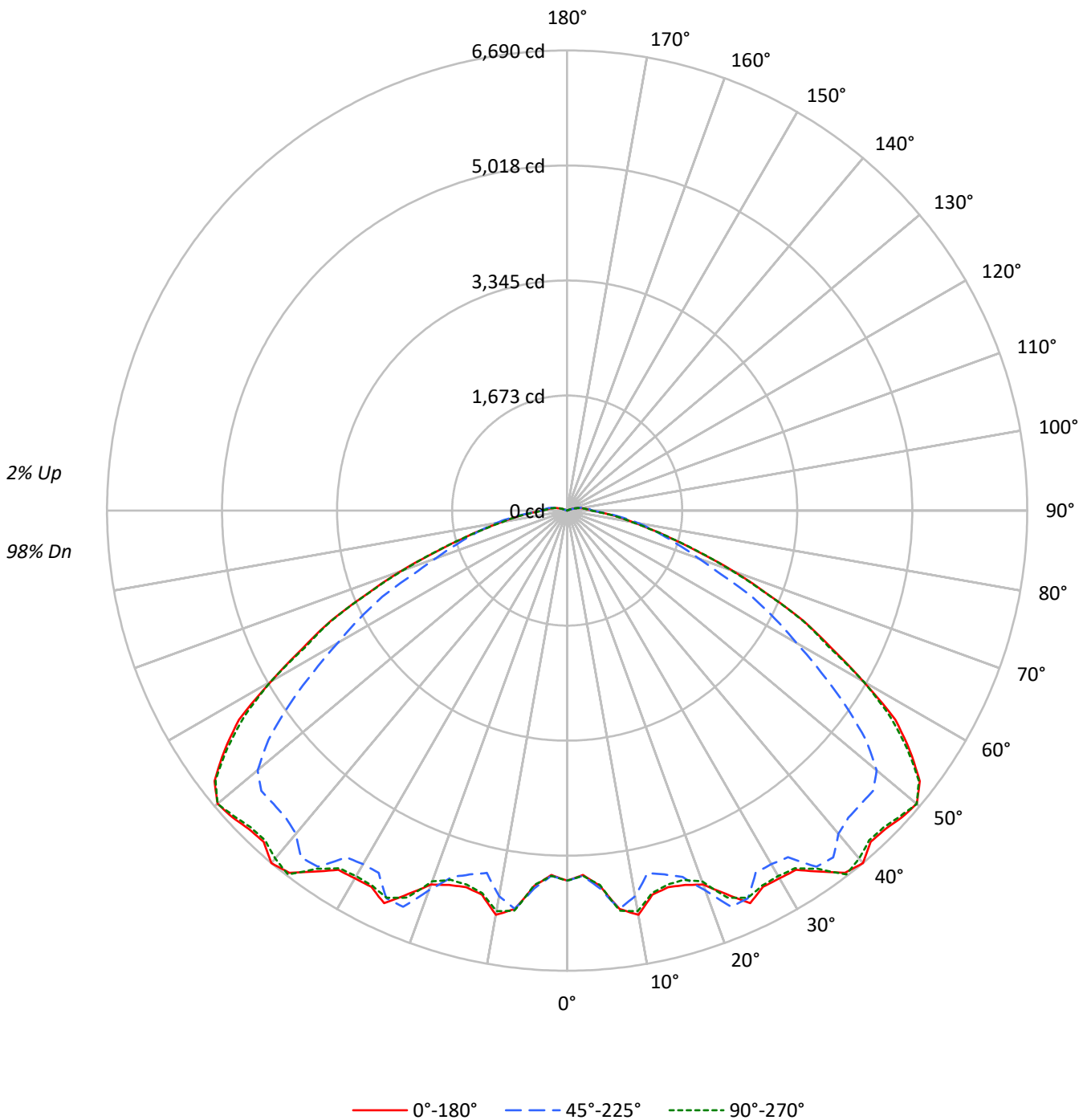
Input Watts (W): 155.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105	100	100	100	98
1	108	102	98	94	105	100	96	92	95	92	89	91	88	86	87	85	83	80
2	97	88	81	75	94	86	80	74	82	77	72	79	74	70	75	71	68	66
3	88	77	68	61	85	75	67	60	72	65	59	68	63	58	66	61	56	54
4	80	67	58	51	77	66	57	50	63	55	49	60	54	48	58	52	47	45
5	73	59	50	43	71	58	49	42	56	48	42	53	46	41	51	45	40	38
6	67	53	43	37	65	52	43	36	50	42	36	48	41	35	46	40	35	33
7	62	47	38	32	60	46	38	32	45	37	31	43	36	31	41	35	30	28
8	57	43	34	28	55	42	34	28	41	33	27	39	32	27	38	31	27	25
9	53	39	30	25	51	38	30	24	37	29	24	36	29	24	35	28	24	22
10	50	36	27	22	48	35	27	22	34	27	22	33	26	21	32	26	21	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	41477	41477	41477
5°	41934	42238	41828
10°	45746	43634	45336
15°	43832	42360	43541
20°	45480	46196	45090
25°	50745	50107	50058
30°	51407	49410	51093
35°	55627	54904	55197
40°	61197	56121	60400
45°	63751	58772	63405
50°	69641	61673	69662
55°	69837	56753	69291
60°	63552	49221	63602
65°	55030	43056	54886
70°	43525	34510	43089
75°	32424	30423	32628
80°	25706	27858	25129
85°	22536	23797	21945



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	540.4	2.2
10°-20°	1589.6	6.4
20°-30°	2779.5	11.2
30°-40°	3958.1	16.0
40°-50°	4899.0	19.8
50°-60°	4873.3	19.7
60°-70°	3303.1	13.3
70°-80°	1637.9	6.6
80°-90°	683.2	2.8
90°-100°	321.5	1.3
100°-110°	139.8	0.6
110°-120°	18.1	0.1
120°-130°	0.5	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	4909.5	19.8
0°-40°	8867.6	35.8
0°-60°	18639.9	75.3
0°-90°	24264.2	98.1
90°-120°	479.4	1.9
90°-150°	479.9	1.9
90°-180°	480.0	1.9
0°-180°	24744.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5380	5380	5380	5380	5380	
5°	5475	5454	5515	5477	5462	544
15°	5668	5464	5477	5473	5630	1626
25°	6298	5921	6219	5898	6213	2837
35°	6405	6425	6322	6440	6355	4039
45°	6546	6345	6034	6322	6510	5100
55°	6082	5521	4942	5479	6034	5370
65°	3789	3294	2965	3308	3779	3710
75°	1574	1472	1476	1488	1583	1735
85°	602	587	636	585	587	568
90°	361	384	367	380	355	204
95°	276	295	307	291	274	212
105°	133	127	123	129	133	141
115°	10	12	14	12	10	18
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5380.3	5380.3	5380.3	5380.3	5380.3
2.5°	5301.0	5322.8	5314.9	5307.0	5314.9
5°	5475.4	5453.6	5515.1	5477.4	5461.6
7.5°	5842.0	5788.5	5838.1	5790.5	5865.8
10°	5966.9	5877.7	5691.4	5855.9	5913.4
12.5°	5719.2	5632.0	5396.2	5647.8	5695.4
15°	5667.7	5463.5	5477.4	5473.4	5630.0
17.5°	5705.3	5461.6	5584.4	5465.5	5630.0
20°	5784.6	5675.6	5875.7	5679.5	5735.0
22.5°	6034.3	5939.1	6234.4	5935.2	6089.8
25°	6297.8	5921.3	6218.6	5897.5	6212.6
27.5°	6167.0	5957.0	5937.2	5933.2	6145.2
30°	6173.0	6022.4	5933.2	6038.2	6135.3
32.5°	6192.8	6143.3	5976.8	6165.1	6165.1
35°	6404.8	6424.7	6321.6	6440.5	6355.3
37.5°	6636.7	6422.7	6355.3	6428.6	6668.4
40°	6690.2	6313.7	6135.3	6305.8	6603.0
42.5°	6531.7	6363.2	6054.1	6343.4	6500.0
45°	6545.5	6345.4	6034.3	6321.6	6509.9
47.5°	6601.0	6466.3	6032.3	6446.5	6571.3
50°	6632.7	6226.5	5873.8	6224.5	6634.7
52.5°	6462.3	5929.2	5471.5	5921.3	6442.5
55°	6081.8	5521.0	4942.4	5479.4	6034.3
57.5°	5657.7	5051.3	4379.6	5017.7	5566.6
60°	4974.1	4462.8	3852.4	4454.9	4978.0
62.5°	4332.0	3977.3	3406.5	3965.4	4286.4
65°	3789.0	3293.6	2964.6	3307.5	3779.1
67.5°	3123.2	2738.7	2415.7	2740.7	3105.3
70°	2564.3	2294.8	2033.2	2277.0	2538.6
72.5°	2011.4	1858.8	1732.0	1852.9	2017.4
75°	1573.5	1472.4	1476.4	1488.3	1583.4
77.5°	1230.6	1179.1	1258.4	1185.1	1220.7
80°	971.0	943.3	1052.3	943.3	949.2
82.5°	772.9	747.1	834.3	749.1	770.9
85°	602.4	586.6	636.1	584.6	586.6
87.5°	451.8	459.8	465.7	461.7	439.9
90°	360.7	384.4	366.6	380.5	354.7
92.5°	317.1	336.9	336.9	342.8	309.1
95°	275.5	295.3	307.2	291.3	273.5
97.5°	239.8	259.6	273.5	259.6	239.8
100°	206.1	220.0	233.8	216.0	202.1
102.5°	172.4	178.4	182.3	178.4	170.4
105°	132.8	126.8	122.9	128.8	132.8
107.5°	93.1	87.2	73.3	87.2	97.1
110°	55.5	51.5	43.6	51.5	59.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	27.7	25.8	25.8	27.7	29.7
115°	9.9	11.9	13.9	11.9	9.9
117.5°	4.0	5.9	5.9	5.9	4.0
120°	4.0	4.0	4.0	4.0	4.0
122.5°	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)